

Prediabetes

Basics



**Taking Steps
to Prevent Type 2 Diabetes**

Table of Contents

What is Prediabetes?	3
Could I Have Prediabetes?	4 - 5
Why Worry About Prediabetes?	6
Take Action to Prevent Type 2 Diabetes	6
Eat Healthy	7 - 9
Move More	10
Make an Activity Plan	11
Weight Matters and BMI	12 - 13
Waist Size	14
Manage Stress	15
Get Plenty of Sleep	16
No Tobacco Use	17
The Good News!	18
References and Resources	19

This booklet is designed to give you basic information on how to take action to prevent type 2 diabetes. It does not replace meeting with your healthcare team. For more information, ask your healthcare provider or your local health department about CDC-Recognized National Diabetes Prevention Programs (DPP).

Find a CDC-Recognized Diabetes Prevention Program in your area:

Kentucky Diabetes Resource Directory

<https://prd.chfs.ky.gov/KYDiabetesResources/>

Two ways to search for DPP resources:

- Diabetes Prevention Program (DPP) Organizations (may have CDC Pending, Preliminary, or Full Recognition)
- Diabetes Prevention Program (DPP) NEW CLASS INFORMATION (updated monthly)

This publication was supported by Cooperative Agreement Number, DP004809, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.

What is Prediabetes?

Prediabetes: a condition in which blood glucose levels are higher than normal and can lead to type 2 diabetes. Approximately 1 out of 3 American adults have prediabetes.

Blood Sugar Numbers: <i>What Do They Mean?</i>			
Adults Who Are Not Pregnant	Normal Blood Sugar Range	Prediabetes Blood Sugar Range	Diabetes Blood Sugar Range
Fasting Blood Sugar (sometimes called plasma glucose)	less than 100 mg/dL	100 - 125 mg/dL	126 mg/dL or higher
2 hours after glucose challenge (OGTT) (sometimes called an oral glucose tolerance test)	less than 140 mg/dL	140 - 199 mg/dL	200 mg/dL or higher
A1C (blood test showing average blood glucose over 2-3 months)	less than 5.7 %	5.7 - 6.4 %	6.5 % or higher

Risk Factors for Prediabetes

- Being overweight (see BMI pages 12-13)
- 45 years or older
- Have a parent or sibling with type 2 diabetes
- Physically active less than 3 times a week
- Ever had gestational diabetes (diabetes during pregnancy) or gave birth to a baby that weighed more than 9 pounds
- Have polycystic ovary syndrome (PCOS)
- Are African American, Hispanic/Latino American, American Indian, Asian American or Pacific Islander



Most people (9 out of 10) who have prediabetes **do not** know it!

Could I Have Prediabetes?

Answer the questions and write
your score in the box.



Read what your score means.



How old are you?

Less than 40 years (0 points)

40-49 years (1 point)

50-59 years (2 points)

60 years or older (3 points)

Are you a man or a woman?

Man (1 point) Woman (0 points)

If you are a woman, have you ever been diagnosed with gestational diabetes?

Yes (1 point) No (0 points)

Do you have a mother, father, sister, or brother with diabetes?

Yes (1 point) No (0 points)

Have you ever been diagnosed with high blood pressure?

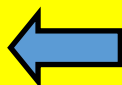
Yes (1 point) No (0 points)

Are you physically active?

Yes (0 points) No (1 point)

What is your weight status?

(see the chart on the next page)




Add up your score.

If you scored 5 or higher:

- ◆ You are likely to have prediabetes and are at high risk for type 2 diabetes.
- ◆ Only a doctor can tell for sure if you do have type 2 diabetes or prediabetes (a condition that precedes type 2 diabetes in which blood glucose levels are higher than normal).
- ◆ Talk to your doctor to see if additional testing is needed.
- ◆ Type 2 diabetes is more common in:
 - African Americans
 - Hispanic/Latinos
 - American Indians
 - Asian Americans
 - Pacific Islanders
- ◆ Higher body weights increase diabetes risk for everyone.
- ◆ Asian Americans are at increased diabetes risk at lower body weights than the general public.

Could I Have Prediabetes?

Height	Weight (lbs.)		
4' 10"	119-142	143-190	191+
4' 11"	124-147	148-197	198+
5' 0"	128-152	153-203	204+
5' 1"	132-157	158-210	211+
5' 2"	136-163	164-217	218+
5' 3"	141-168	169-224	225+
5' 4"	145-173	174-231	232+
5' 5"	150-179	180-239	240+
5' 6"	155-185	186-246	247+
5' 7"	159-190	191-254	255+
5' 8"	164-196	197-261	262+
5' 9"	169-202	203-269	270+
5' 10"	174-208	209-277	278+
5' 11"	179-214	215-285	286+
6' 0"	184-220	221-293	294+
6' 1"	189-226	227-301	302+
6' 2"	194-232	233-310	311+
6' 3"	200-239	240-318	319+
6' 4"	205-245	246-327	328+
What is your weight score? 	(1 Point)	(2 Points)	(3 Points)
	You weigh less than the amount in the left column (0 points)		

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009. Original algorithm was validated without gestational diabetes as part of the model.

Prediabetes Risk Test has been adapted from the American Diabetes Association and CDC screening form.

For more information visit: DoIHavePrediabetes.org

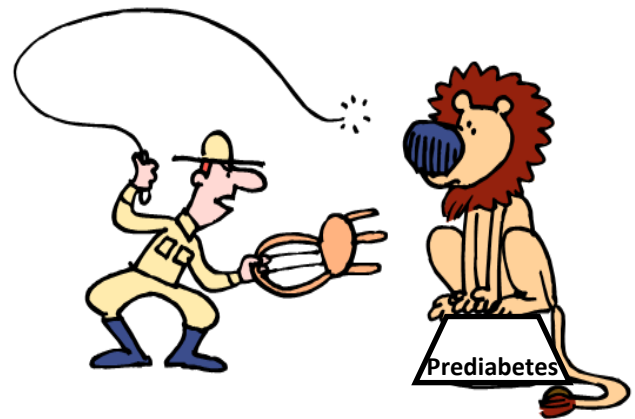
Why Worry About Prediabetes?

Prediabetes is serious!

- High blood sugar over time causes damage to the entire body from head to toe.
 - Prediabetes can lead to type 2 diabetes, heart disease and stroke.
-
- It is possible to delay or prevent prediabetes from becoming type 2 diabetes.
 - Participating in a structured lifestyle change program, like the National Diabetes Prevention Program, can cut the risk of developing diabetes in half!

These programs focus on:

- Lowering body weight by 5 - 7 %
(if overweight)
- Increasing physical activity to at least
150 minutes per week



Take Action to Prevent Type 2 Diabetes



Eat Healthy
Move More
Manage Weight
Manage Stress
Get Enough Sleep
No Tobacco Use



Eat Healthy

- Use MyPlate to build your healthy eating style and maintain it for a lifetime.
- Choose foods and beverages from each MyPlate food group.
- Make sure your choices are limited in sodium, saturated fat, and added sugars.
- Start with small changes to make healthier choices you can enjoy.

1. Find your healthy eating style: Creating a healthy style means regularly eating a variety of foods to get the nutrients and calories you need. MyPlate's tips help create your own healthy eating solutions "MyWins."

2. Make half your plate fruits and vegetables: Eating colorful fruits and vegetables is important because they provide vitamins and minerals and most are low in calories.

3. Focus on whole fruits: Choose whole fruit; fresh, frozen, dried, or canned in 100 % juice. Enjoy fruit with meals, as snacks, or as dessert.

4. Vary your veggies: Try adding fresh, frozen, or canned vegetables to salads, sides, and main dishes. Choose a variety of colorful vegetables prepared in healthful ways: steamed, sautéed, roasted, or raw.

5. Make half your grains whole grains: Look for whole grains listed first or second on the ingredient list - try oatmeal, popcorn, whole-grain bread, and brown rice. Limit grain-based desserts and snacks, such as cakes, cookies and pastries.

6. Move to low-fat or fat-free milk or yogurt: Choose low-fat or fat-free milk, yogurt, and soy beverages (soymilk) to cut back on

saturated fat. Replace sour cream, cream and regular cheese with low-fat yogurt, milk and cheese.

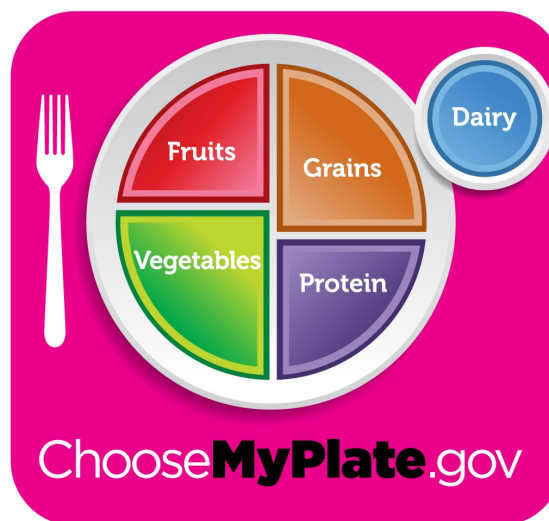
7. Vary your protein routine: Mix up your protein foods to include seafood, beans and peas, unsalted nuts and seeds, soy products, eggs, and lean meats and poultry. Try main dishes made with beans or seafood like tuna salad or bean chili.

8. Drink and eat beverages and food with less sodium, saturated fat, and added sugars: Use the Nutrition Facts label and ingredients list to limit items high in sodium, saturated fat, and added sugars. Choose vegetable oils instead of butter, and oil-based sauces and dips instead of ones with butter, cream, or cheese.

9. Drink water instead of sugary drinks: Water is calorie-free. Regular soda, energy or sports drinks, and other sugar-sweetened drinks contain a lot of

calories from added sugars and have few nutrients.

10. Everything you eat and drink matters: The right mix of foods can help you be healthier now and into the future. Turn small changes into your, "MyPlate, MyWins."



Reference: Tip sheet from ChooseMyPlate.gov

Eat Healthy

Read Food Labels

Nutrition Facts	
2 servings per container	
Serving size 1 1/2 cup (208g)	
Amount per serving	
Calories	240
% Daily Value*	
Total Fat 4g	5%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 5mg	2%
Sodium 430mg	19%
Total Carbohydrate 46g	17%
Dietary Fiber 7g	25%
Total Sugars 4g	
Includes 2g Added Sugars	4%
Protein 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

← **Serving Size:**
Information is for one serving.

← **Calories:**

- Calories are listed for one serving.
- Knowing how many calories to eat daily is a key part of weight loss.

← **Total Carbohydrate:**

- Carbohydrates are needed every day.
- Total carbohydrates may include fiber, sugars, and other carbohydrates.
- When counting carbohydrates, only use “Total Carbohydrate” listed on the food label.



Count Calories

- To lose weight, most people need to decrease the amount of calories they get from food and beverages and increase the calories used in physical activity.
- Lowering calorie intake by 500 to 750 calories each day can result in a weight loss of 1 to 1½ pounds a week.
- Eating plans that have 1,200 - 1,500 calories each day will help most women lose weight safely.
- Eating plans that have 1,500 - 1,800 calories each day will help most men lose weight safely.
- Eating plans with less than 800 calories should not be used unless they are monitored by a doctor.

Reference: www.nhlbi.nih.gov

Eat Healthy

What does a serving look like?



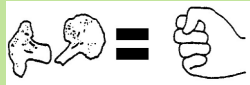
3 ounces of meat is about the size and thickness of a deck of playing cards



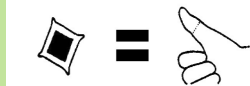
1 oz of cheese is about the size of 4 stacked dice



1/2 cup of ice cream is about the size of a tennis ball



1 cup of veggies is about the size of your fist



1 teaspoon of butter or peanut butter is about the size of the tip of your thumb



1 ounce of nuts or small candies equals one handful



Need help?

- Meet with a Registered Dietitian Nutritionist (RDN) to discuss your calorie and carbohydrate goals.
- Find a RDN in your area by looking at the Kentucky Diabetes Resource Directory.

<https://prd.chfs.ky.gov/KYDiabetesResources/>

Move More



Being Active:

- Increases energy
- Helps control cholesterol
- Helps lower stress and anxiety
- Increases strength and range of motion
- Helps keep blood sugars in a healthy range
- Helps control blood pressure
- Improves your mood



Activity Tips:

- Choose an activity you enjoy
- Plan activity in your schedule
- Begin slowly
- Include a warm-up and cool-down each time
- Enjoy activity with a buddy
- Aim for at least 30 minutes of activity most days (activity may be broken into three 10 minute time frames)
- Wear good fitting shoes
- Drink plenty of sugar-free fluids like water
- Avoid an intense workout if it is very hot, humid, smoggy or cold



Make An Activity Plan

What's your favorite activity that gets you moving?

List some other activities that you enjoy doing.

What obstacle stops you from doing these activities?

(Circle as many as you want)

Not enough time

Too out of shape

Too tired

Not motivated

Can't afford it

My _____ hurts too much

Other reason _____



What is something you can do to overcome the obstacles that keep you from doing activities you enjoy?

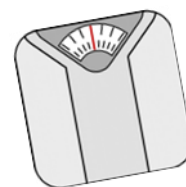
What can you do to get started doing an activity you enjoy or working up to it?

When will you begin doing this?

Write a goal for what you can do to increase activity (include when you will begin to do this). **Example:** Starting next week, I will walk ten minutes during my lunch break at work Monday through Thursday.

Weight Matters

- Weight loss of 5-7% of weight (if overweight) can delay or prevent type 2 diabetes
- Know your BMI (Body Mass Index)
- Lower calorie intake and increase activity



Tips to help with weight loss:

- Choose smaller servings
- Drink low or no calorie beverages such as water, unsweetened tea, diet drinks or black coffee
- Monitor your weight
- Keep a daily food and activity journal
- Use a smaller plate to make portions look larger

Body Mass Index (BMI)

- Body Mass Index or BMI is calculated by using height and weight measurements.
- It is a tool used to identify weight concerns in adults.
- The higher the number the greater the risk for prediabetes and other health issues.

Find your BMI: Refer to the chart found on the next page or go online to <https://www.cdc.gov/healthyweight/assessing/bmi/index.html>

BMI	Classification
Less than 18.5	Underweight
18.5-24.9	Normal
25-29.9	Overweight
Over 30	Obese

What Is My Body Mass Index?

- Directions:**
1. Find your height going down the purple column.
 2. Follow that row across from your height to find your weight.
 3. Trace the column down from your weight to locate the BMI number.

Example: a person 70 inches tall that weighs 195 pounds has a BMI of 28.

Height in inches	Weight in pounds													
58	91	96	100	105	110	115	119	124	129	134	138	143	167	191
59	94	99	104	109	114	119	124	128	133	138	143	148	173	198
60	97	102	107	112	118	123	128	133	138	143	148	153	179	204
61	100	106	111	116	122	127	132	137	143	148	153	158	185	211
62	104	109	115	120	126	131	136	142	147	153	158	164	191	218
63	107	113	118	124	130	135	141	146	152	158	163	169	197	225
64	110	116	122	128	134	140	145	151	157	163	169	174	204	232
65	114	120	126	132	138	144	150	156	162	168	174	180	210	240
66	118	124	130	136	142	148	155	161	167	173	179	186	216	247
67	121	127	134	140	146	153	159	166	172	178	185	191	223	255
68	125	131	138	144	151	158	164	171	177	184	190	197	230	262
69	128	135	142	149	155	162	169	176	182	189	196	203	236	270
70	132	139	146	153	160	167	174	181	188	195	202	207	246	278
71	136	143	150	157	165	172	179	186	193	200	208	215	250	286
72	140	147	154	162	169	177	184	191	199	206	213	221	258	294
73	144	151	159	166	174	182	189	197	204	212	219	227	265	302
74	148	155	163	171	179	186	194	202	210	218	225	233	272	311
75	152	160	168	176	184	192	200	208	216	224	232	240	279	319
76	156	164	172	180	189	197	205	213	221	230	238	246	287	328
BMI (kg/m ²)	19	20	21	22	23	24	25	26	27	28	29	30	35	40
	Normal						Overweight					Obese		

Waist Size



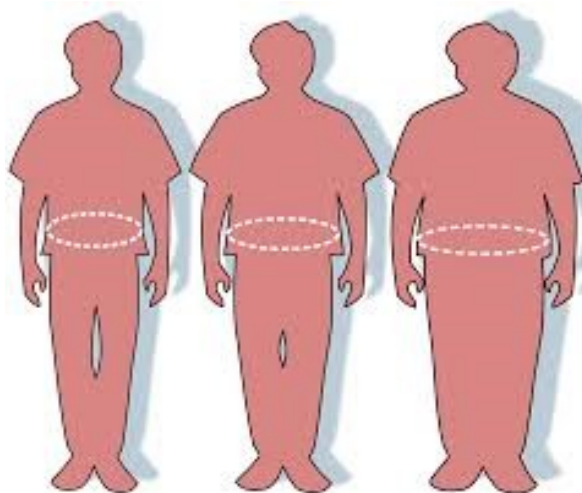
Fat around the belly can cause a person's insulin not to work right or be as effective (sometimes called insulin resistance).

People have a higher risk of prediabetes if they have a larger waist measurement:

- Women with a waist more than 35 inches
- Men with a waist more than 40 inches

How to measure your waist size:

- Use a soft tape measure
- Pull up your shirt to reveal the stomach
- Press fingers into one side of your waist until you feel your hip bones
- Find the top of the hip bone
- Place tape measure horizontal on hip bone and wrap around waist
- Measure your waist just after you breathe out



Manage Stress

- Everyone has stress in their lives.
- The way we cope physically, mentally, and emotionally to stress has an impact on our health.
- High levels of stress over long periods of time (sometimes called chronic stress) increases levels of cortisol (a stress hormone the body makes).
- When cortisol levels remain high, it causes higher insulin resistance (insulin does not work right or as effectively) which is a risk factor in prediabetes, high blood pressure and heart disease.

Positive Ways to Deal With Stress

Circle what works for you:

Listen to music



Be outdoors

Play with a pet

Discuss situations with someone

Laugh

Gardening

Cry

Home repair

Go out with a friend

Practicing deep breathing

Take a bath or shower

Meditation

Paint

Muscle relaxation

Craft

Read

Pray or go to church

Write

Being active



Get Plenty of Sleep

- Sleep problems, especially sleep apnea contribute to high levels of cortisol (stress hormone) and the body not using insulin effectively (insulin resistance).
- Obstructive sleep apnea is a condition in which the airway becomes blocked during sleep.
- Sleep studies are used to diagnose sleep apnea.
- People who have sleep apnea have increased risk for prediabetes and high blood pressure.

Age	Hours Recommended
Birth-3 months	14-17 hours each day
4-11 months	12-15 hours each day
1-2 years old	11-14 hours each day
3-5 years old	10-13 hours each day
6-13 years old	9-11 hours each day
14-17 years old	8-10 hours each day
18-25 years old	7-9 hours each day
26-64 years old	7-9 hours each day
65 years and older	7-8 hours each day

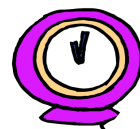
Reference: sleephealthjournal.org

Signs of sleep apnea include: reduced or absent breathing, loud snoring, gasping for air during sleep.

Symptoms include: excessive daytime sleepiness and fatigue, decreased attention, headaches, and frequent waking throughout the night.

Tips for a Good Night's Sleep:

- Go to bed at the same time each night, and rise at the same time each morning.
- Sleep in a quiet, dark, and relaxing environment, neither too hot or too cold.
- Make your bed comfortable and use it for sleeping and not for reading, watching TV, using a cell phone or tablet, or listening to music.
- Sleep in silence, remove TVs and music to sleep without distractions.
- Get regular activity, but avoid physical activity close to bedtime.
- Avoid large meals before bedtime.
- Avoid caffeine, especially near bedtime.



No Tobacco

- Smokers are twice as likely to develop type 2 diabetes than people who have never smoked.
- Heavy smokers are 5 times more likely to develop type 2 diabetes than nonsmokers.
- Smoking is linked with higher levels of belly fat.
- Tobacco use can cause a person's insulin to not work right (insulin resistance).
- Tobacco users have a harder time controlling their blood sugar levels because of insulin resistance (insulin does not work right).
- The benefits of quitting tobacco use are dramatic and help with lowering risk for prediabetes:
 - ⇒ Better blood glucose means lower average blood sugar (A1C) over time
 - ⇒ Better circulation
 - ⇒ Less resistance to insulin
 - ⇒ Lower blood pressure
 - ⇒ Lower cholesterol levels



Find Help to Quit

Quit Now Kentucky ➡ **1-800-Quit-Now**
1-800-784-8669

Available Support:

- **Tobacco Cessation Programs**
- **Telephone Support**
- **Email Support**
- **Texting Support**
- **In-person Meetings**

The Good News!

- It is possible to reverse prediabetes with small lifestyle changes.
- These changes can help you live a longer and healthier life.
- The Centers for Disease Control and Prevention (CDC's) National Diabetes Prevention Program (DPP) is a structured lifestyle change program proven to reduce the risk of developing type 2 diabetes by half in those with prediabetes.

CDC's National Diabetes Prevention Program

- ***Lifestyle Change Program***
- ***Taught by a trained lifestyle coach***
- ***A program that provides an entire year of support and education by meeting weekly for 16 weeks then at least monthly for the rest of the year***
- ***To learn more about making lifestyle changes that can lower your risk of developing type 2 diabetes, visit [DoIHavePrediabetes.org](https://dohaveprediabetes.org)***



Find a CDC-Recognized Diabetes Prevention Program in your area:

Kentucky Diabetes Resource Directory

<https://prd.chfs.ky.gov/KYDiabetesResources/>

Two ways to search for DPP resources:

- Diabetes Prevention Program (DPP) Organizations (may have CDC Pending, Preliminary, or Full Recognition)
- Diabetes Prevention Program (DPP) NEW CLASS INFORMATION (updated monthly)

References and Resources

- **Academy of Nutrition & Dietetics**
www.eatright.org
- **American Association of Diabetes Educators**
www.diabeteseducator.org
- **American Diabetes Association**
www.diabetes.org
- **Centers for Disease Control and Prevention**
www.cdc.gov/diabetes
<https://www.cdc.gov/diabetes/prevention/index.html>
<https://www.cdc.gov/diabetes/prevention/lifestyle-program/curriculum.html>
- **DoIHavePrediabetes.org**
- **Kentucky Diabetes Network, Inc.**
www.kydiabetes.net
- **Kentucky Diabetes Prevention and Control Program**
<https://chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/diabetes.aspx>
- **Kentucky Diabetes Resource Directory**
<https://prd.chfs.ky.gov/KyDiabetesResources>
- **National Diabetes Education Program**
www.ndep.nih.gov
- **National Sleep Foundation**
sleepfoundation.org
- **National Institute of Health**
<https://www.niddk.nih.gov/bwp> (Body Weight Planner)
<https://www.nhlbi.nih.gov>
- **United States Department of Agriculture (USDA)**
ChooseMyPlate.gov
<https://www.nutrition.gov/>

